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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Akira Hommi

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EXAMINER

NGUYEN, CHUONG P

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/525,871	<b>Applicant(s)</b> HOMMI ET AL.	
	<b>Examiner</b> Chuong P. Nguyen	<b>Art Unit</b> 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Applicant's 01/11/2008 Amendment, which directly amended claims 2-4; cancelled claims 5-17; and traversed the rejection of the claims of the 09/14/2007 Office Action are acknowledged.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Togai et al (5,694,901) in view of Hiroaki et al (IDS reference – JP2001163202).

Regarding claim 2, Togai et al disclose the road surface condition change estimation apparatus comprising: a rotation angular acceleration measurement module (i.e. angular

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acceleration detecting means) configured to measure a rotation angular acceleration of a drive shaft, which is mechanically linked to drive wheels of the automobile (Fig 1, 15, 16 “107”; Fig 13; col 21, line 4+). Togai et al do not explicitly disclose a condition change estimation module configured to estimate the change of the road surface condition, based on a variation in period of a time change of the measured rotation angular acceleration that increases to or over a predetermined reference value, wherein a period of time change in a first peak is compared with a period of time change in a opposite peak that is detected immediately after the first peak. Hiroaki et al teach in the same field of endeavor a condition change estimation module (i.e. road surface coefficient-of-friction judging means / CPU) configured to estimate the change of the road surface condition, based on a variation in period of a time change of the measured rotational angular acceleration (i.e. calculated acceleration derived from wheel speed degree detection means) that increases to or over a predetermined reference value (i.e. S1, S2), wherein a period of time change in a first peak is compared with a period of time change in a opposite peak that is detected immediately after the first peak (i.e. peak-to-peak amplitude) ([0021]-[0024]; [0035]-[0046]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate such condition change estimation module as taught by Hiroaki et al in the system of Togai et al because it does no more than yield predictable results of estimating the change of the road surface condition since it has been held that the combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results (MPEP 2143).

Regarding claim 3, Togai et al do not explicitly disclose the condition change estimation module configured to estimate the change of the road surface condition, in response to a

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variation in period of a time change of the measured rotation angular acceleration at or over a predetermined rate. Hiroaki et al teach in the same field of endeavor the condition change estimation module (i.e. road surface coefficient-of-friction judging means / CPU) configured to estimate the change of the road surface condition, in response to a variation in period of a time change of the measured rotation angular acceleration (i.e. calculated acceleration derived from wheel speed degree detection means) at or over a predetermined rate ([0021]-[0024]; [0035]-[0046]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate such condition change estimation module as taught by Hiroaki et al in the system of Togai et al because it does no more than yield predictable results of estimating the change of the road surface condition since it has been held that the combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results (MPEP 2143).

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Togai et al modified by Hiroaki et al as applied to claim 3 above, and further in view of Fuhrer et al (6,532,407).

Regarding claim 4, Togai et al modified by Hiroaki et al disclose the invention including the condition change estimation module. However, Togai et al modified by Hiroaki et al do not explicitly disclose the condition change estimation module configured to an abrupt increase in friction coefficient on the road surface, when the period of the time change of the measured rotation angular acceleration in an opposite peak detected immediately after a first peak, which appears after an increase of the rotation angular acceleration to or over a predetermined reference value, is shorter than the period of the time change in the first peak by or over the predetermined

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rate. Fuhrer et al teach in the same field of endeavor in Fig 2 the condition change estimation module (i.e. evaluation device 12) configured to estimate an abrupt increase in friction coefficient on the road surface, when the period of the time change of the acceleration measured by the acceleration sensor in an opposite peak detected immediately after a first peak, which appears after an increase of the acceleration measured by the acceleration sensor to or over a predetermined reference value, is shorter than the period of the time change in the first peak by or over the predetermined rate (Fig 3a, 3b “S1, S2, -S1, -S2”; Fig 4; col 1, lines 34-61; col 2, line 25 – col 4, line 55). Thus it would have been obvious to one of ordinary skill in the art to incorporate such condition change estimation module as taught by Fuhrer et al in the system of Togai et al modified by Hiroaki et al because it does no more than yield predictable results of estimating the change of the road surface condition since it has been held that the combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results (MPEP 2143)..

6. While patent drawings are not drawn to scale, relationships clearly shown in the drawings of a reference patent cannot be disregarded in determining the patentability of claims. See In re Mraz, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 2-4 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. The cited prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong P. Nguyen whose telephone number is 571-272-3445. The examiner can normally be reached on M-F, 8:00 - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CN

/Jack W. Keith/  
Supervisory Patent Examiner, Art Unit 3663